



MODULE 1 PROJECT

**HOUSING PRICES IN KING
COUNTY, WA**

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- A vertical photograph of the Seattle skyline at dusk. The Space Needle is prominent on the left, its observation deck illuminated. Other skyscrapers are visible against a darkening sky. In the foreground, the tops of trees are visible.
- ▶ Business Question
 - ▶ Prediction Model
 - ▶ Case Study
 - ▶ Next Steps



- ▶ Massive rental market
 - Relatively high cost of homes
 - Large student population
- ▶ Top 5 fastest-growing cities¹
- ▶ Population: 2,233,163¹
 - 1st in Washington
 - 12th in the US²

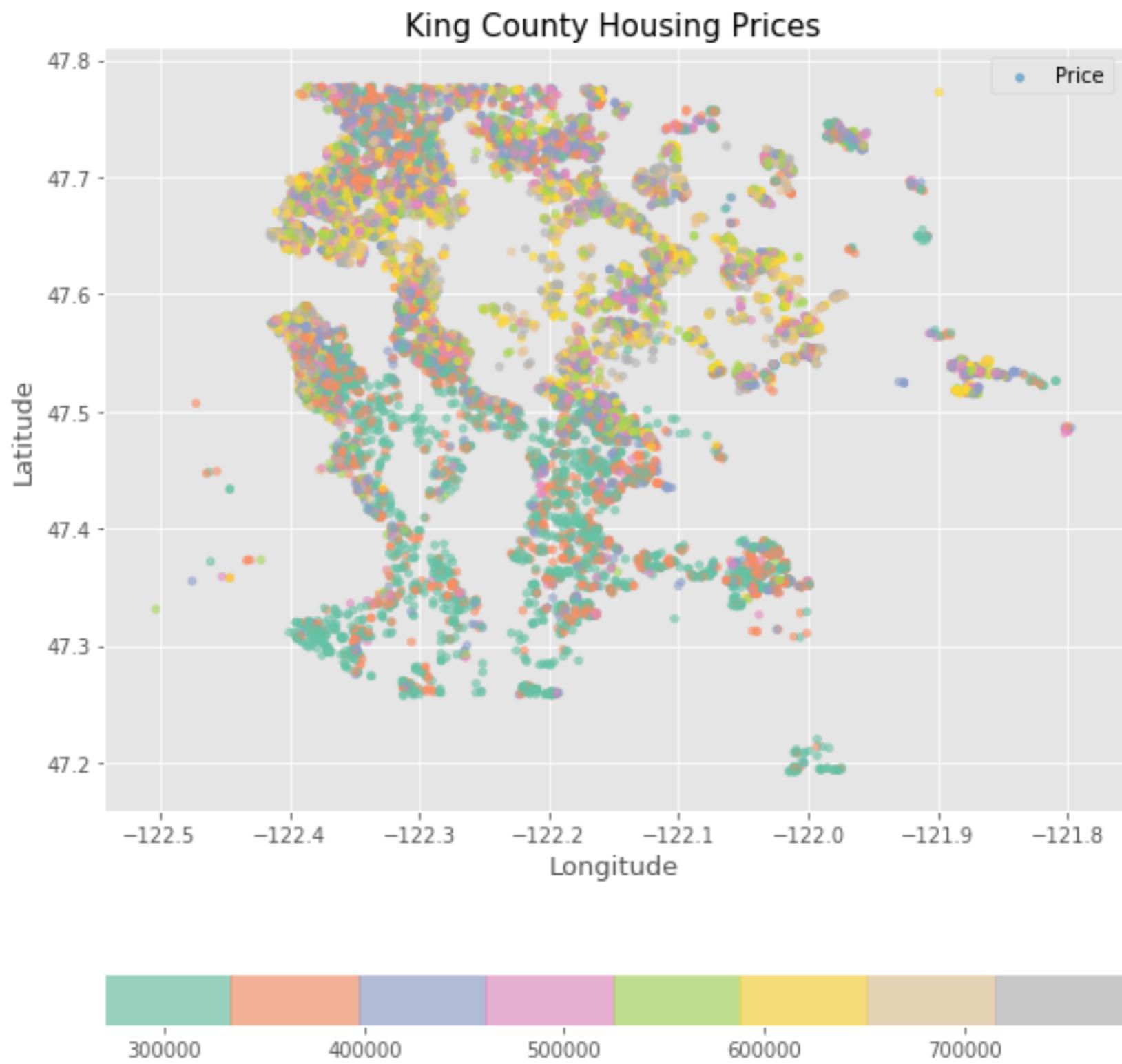
How do we value a property based on its characteristics?

(1) [U.S. Census Bureau](#)

(2) [U.S. County Populations 2019, World Population Review](#)

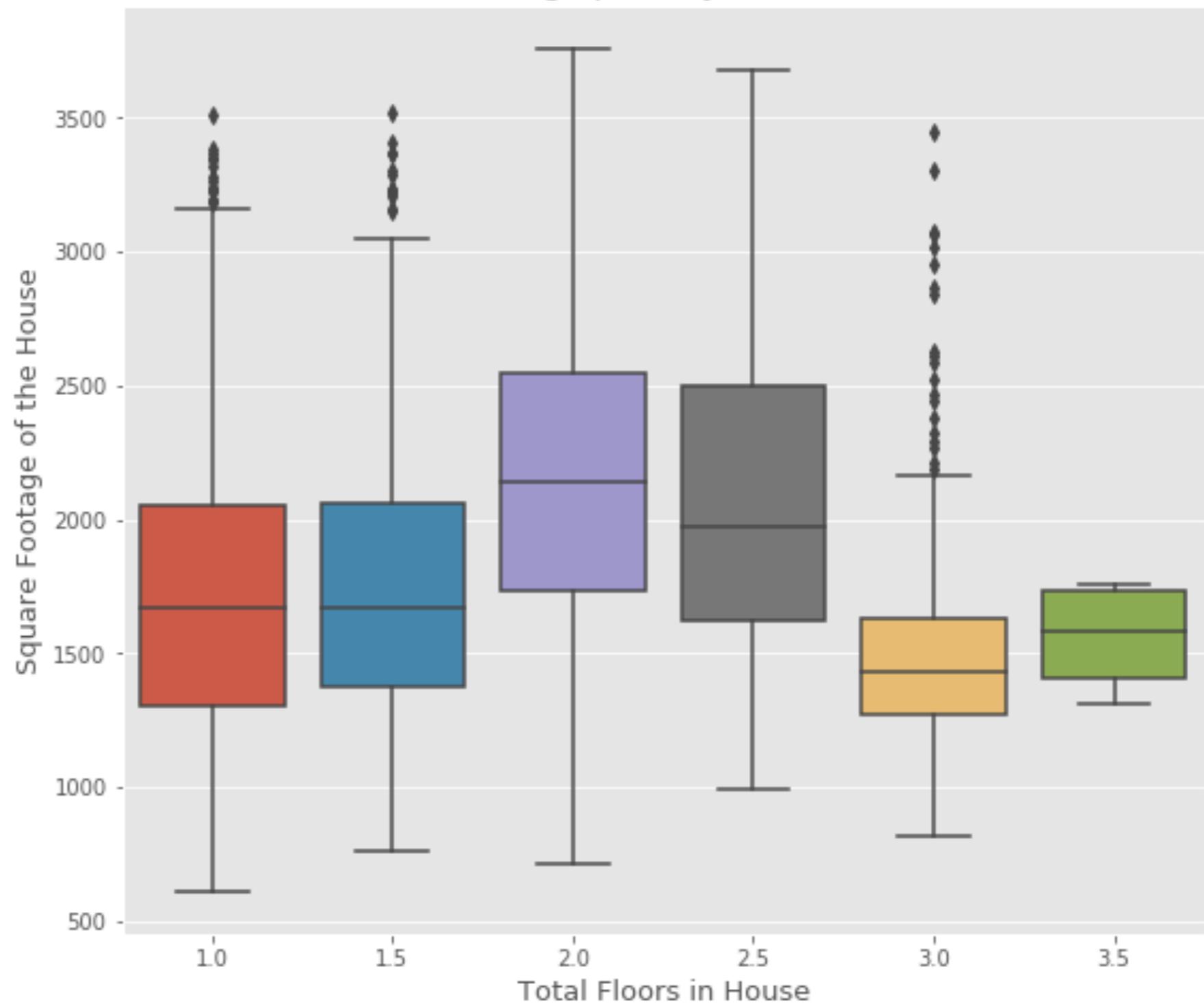


- ▶ Based on 2014-2015 data
- ▶ Middle 70% of the data (15th - 85th percentile)
 - ▶ \$270K - \$780K
 - ▶ Removed outliers
 - ▶ 70% of the variance



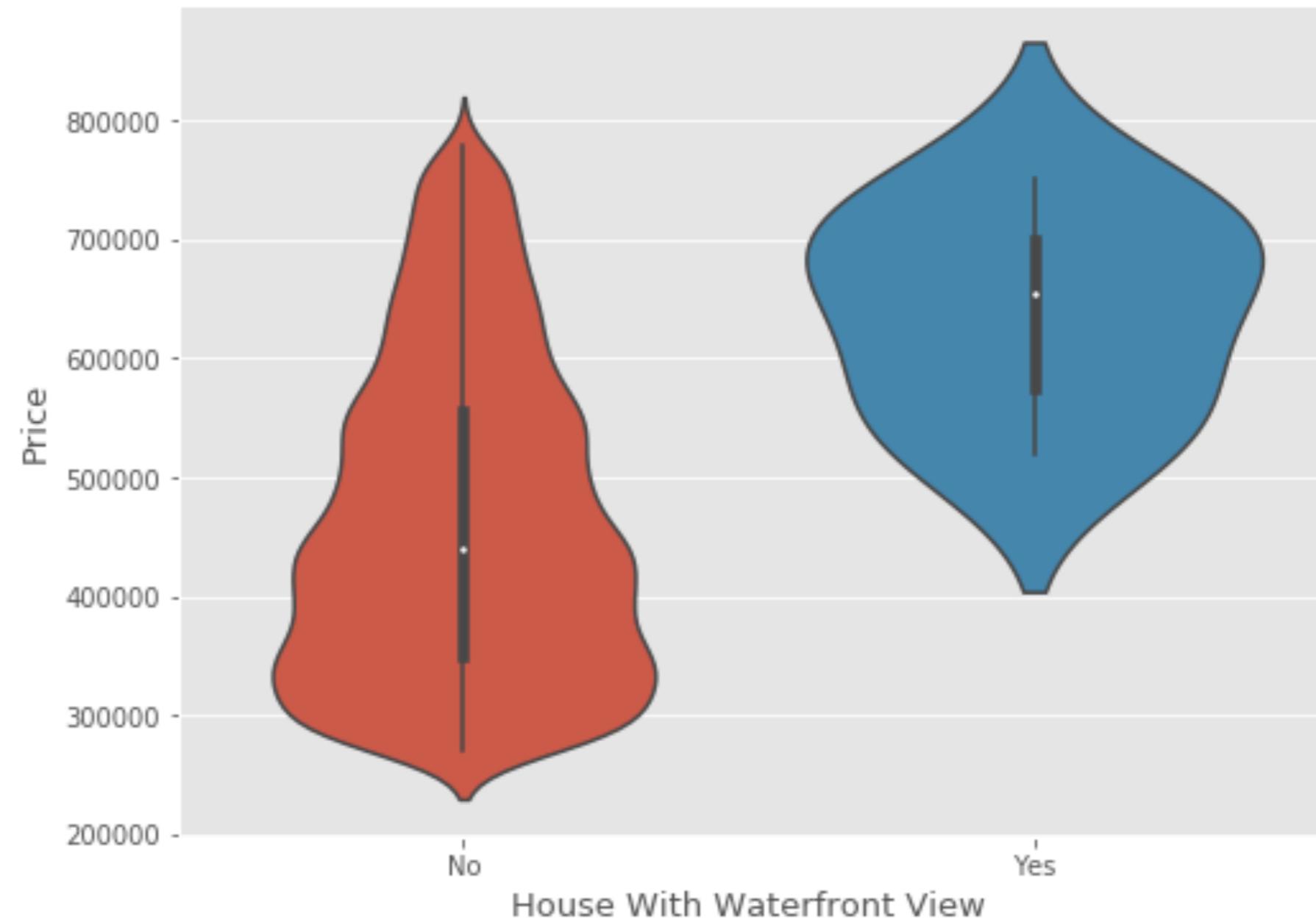


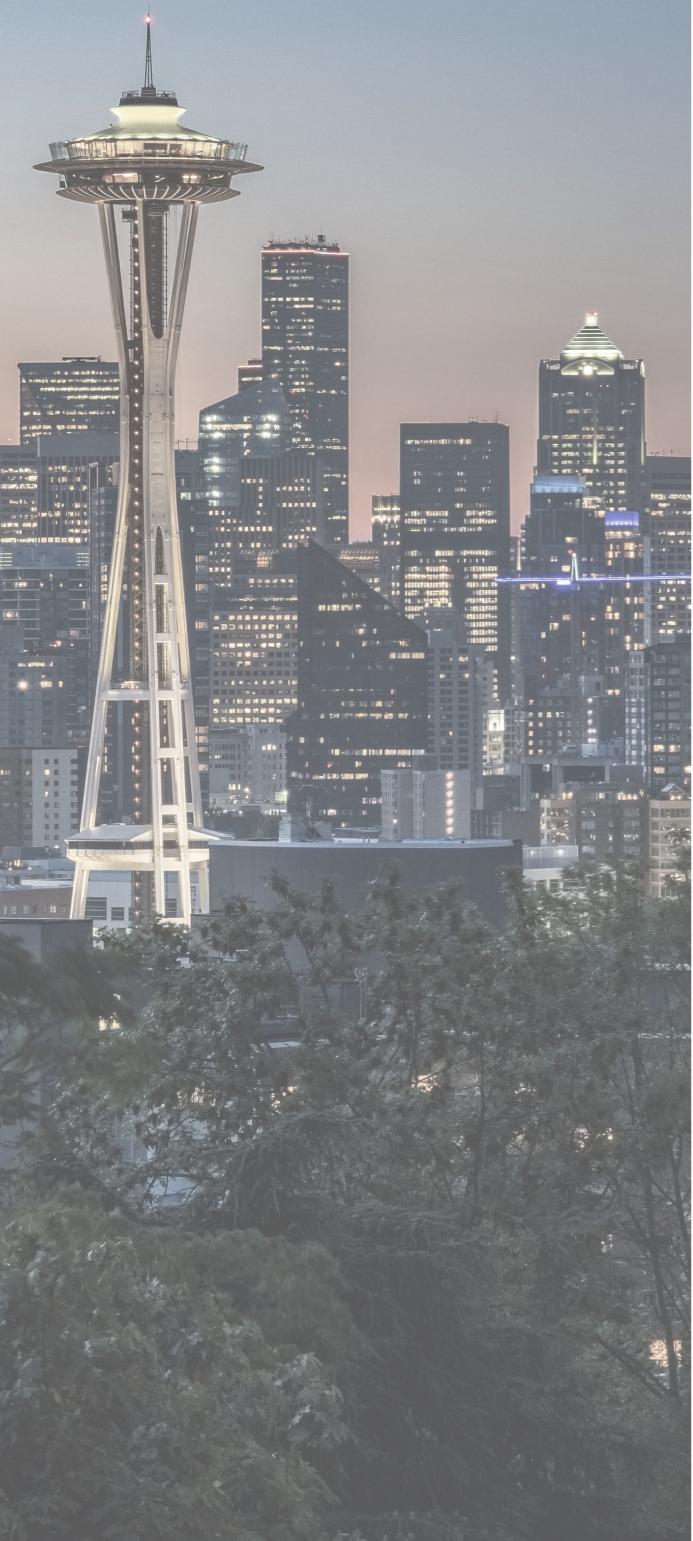
Distribution of Living Space by Total Number of Floors





Distribution of Housing Prices by Waterfront View





VARIABLE	PRICING IMPACT
Living Space (per 100 ft²)	+ \$ 8.6K
Number of Views	+ \$ 25.0K
Overall Condition	+ \$ 13.7K
Grade (King County Grading System)	+ \$ 39.2K
Built Year	- \$ 0.7K
Latitude	+ \$ 80.4K
Longitude	- \$ 136.6K
Nearby Neighborhoods Living Space (per 100 ft²)	+ \$ 2.2K
Neighborhood (Zipcode)	- \$ 37.4K
Waterfront View	+ \$ 147.1K



PROPERTY A ✓

Living Space	1,200 ft ²	
Number of Views	3	→ + \$ 25.0K
Grade	7	
Waterfront	Yes	→ + \$ 147.1K
		+ \$ 172.1K

PROPERTY B ✗

Living Space	1,500 ft ²	→ + \$ 25.9K
Number of Views	2	
Grade	9	→ + \$ 78.4K
Waterfront	No	
		+ \$ 104.3K



- ▶ Develop models to include the two ends of the spectrum
- ▶ Updated underlying data
- ▶ Investigate possible patterns in the outliers
- ▶ Apply the model to other regions

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**THANK YOU
FOR YOUR TIME**